REMARKS

Claim status

Claims 1-3, 5-24, 28-30, 32-34, 36-39, and 41-60 were pending in the case at the time of the current Office Action. Claims 1, 7-8, 10-11, 13, 15-16, 18-23, 30, 38, 44-45, 52, 56, and 58-60 are currently amended herein. Claims 4-5, 14, 25-29, 31-37, 39-42, 46, and 57 are cancelled herein. Claims 1-3, 6-13, 15-24, 30, 38, 43-45, 47-56, and 58-60 are currently pending in the application. There are a total of 39 claims currently pending in the application.

Specification Amendments

The specification has been amended herein simply to add the appropriate headers at the beginning of the document. No new matter has been added.

Drawings

In the current Office action, the drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the implantable cardiac pacemaker or defibrillator; the processing unit integrated in the respective catheters; the three reference units asymmetrically arranged or distributed in a triangle; and the predetermined shape in the form of a circular arc must be shown or the features cancelled from the claims.

Applicants respectfully traverse the foregoing objections in view of the above pending claims and for reasons set forth hereafter.

It is respectfully submitted that the drawings are now in compliance with 37 CFR 1.83(a). In particular, claim 1 has been amended herein to clearly distinguish that a cardiac pacemaker or a defibrillator is not being claimed but, instead, electrodes in a working catheter are being claimed. The electrodes are adapted to be in electrical communication with a cardiac pacemaker or a defibrillator. Also, certain claims have been amended herein to change the term "processing unit" to the term "control unit". Also, claim 14 has been cancelled herein which previously claimed a processing unit being integrated in the respective catheters. Furthermore, claims 46

and 57 have been cancelled herein which previously claimed a previously established specific shape being a circular arc. With respect to the three reference units being asymmetrically arranged or distributed in a triangle (claims 30, and 32-33), it is respectfully submitted that Fig. 1 and Fig. 2 both clearly show the three reference units (4a, 4b, 4c) asymmetrically arranged such that they reside on the points of a triangle that could be drawn to include the three reference units (4a, 4b, 4c).

Therefore, in view of at least the foregoing, it is respectfully submitted that the objections to the drawings have been overcome and that the objections should be removed.

Claim Objections

In the current Office action, claims 11 and 14 are objected to because of the following informalities: Regarding claim 11, it is unclear how reference units irradiating ultrasonic waves build up at least one electromagnetic field. Regarding claim 14, it is unclear how the processing unit is integrated into the catheters.

Applicants respectfully traverse the foregoing objections in view of the above pending claims and for reasons set forth hereafter.

Claim 11 has been amended herein to correct the objectionable language and claim 14 has been cancelled herein.

Therefore, in view of at least the foregoing, it is respectfully submitted that the objections to claims 11 and 14 have been overcome and should be removed.

Section 112 rejections

In the current Office action, claims 1-3, 5-24, 28-30, 32-34, 36-39, and 41-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicants respectfully traverse the foregoing rejections in view of the above pending claims and for reasons set forth hereafter.

In the current Office action, the Examiner states that, "The specification does not adequately teach how to fixedly implant the working catheter in the body. Further regarding claim 14, the specification does not adequately teach how to integrate the processing unit into the respective catheters."

Claims 14 has been cancelled herein.

Claim 1 recites:

"A system for determining an intracorporal position of a working catheter, comprising:

a single lead working catheter for carrying out desired working operations, said working catheter comprising a catheter adapted to be fixedly implantable in a body and that carries electrodes adapted to be in electrical communication with a cardiac pacemaker or a defibrillator;

an intracorporal reference catheter for producing a co-ordinate system, and

wherein the working catheter has a plurality of working catheter reference units for sending signals which are characteristic for the position of the working catheter, and wherein the working catheter reference units are asymmetrically arranged on the single lead of the working catheter so that an orientation of the working catheter can be detected in the co-ordinate system of the reference catheter, and

the reference catheter has a plurality of reference catheter reference units for receiving the signals sent by the working catheter reference units; and

a control unit for calculating the position and an intracorporal orientation of the working catheter on the basis of signals received from the reference catheter reference units."

Applicants respectfully submit that the fixation of a working catheter in the body is generally well known in the art. Therefore, no further enablement is required. Also, the claims are not directed to a method of fixedly implanting a catheter in a body, since Applicants believe such methods to be well-known in the art. Instead, the claims are directed to a system which includes a working catheter that is adapted to be fixedly implantable in a body.

It is respectfully submitted that the 35 U.S.C. 112 rejections have been overcome and that the rejections should be removed.

Section 102 rejections

In the current Office action, claims 1-3, 5-10, 12-19, 22-24, 28-30, 32-34, 36-39, 41-47, and 50-60 are rejected under 35 U.S.C. 102(e) as being anticipated by Willis et al. of record.

Applicants respectfully traverse the foregoing rejection in view of the above pending claims and for reasons set forth hereafter.

The independent claims of the present application claim a single lead working catheter and working catheter reference units that are asymmetrically arranged on the single lead of the working catheter.

For example, independent claim 1 recites:

"A system for determining an intracorporal position of a working catheter, comprising:

a single lead working catheter for carrying out desired working operations, said working catheter comprising a catheter adapted to be fixedly implantable in a body and that carries electrodes adapted to be in electrical communication with a cardiac pacemaker or a defibrillator;

an intracorporal reference catheter for producing a co-ordinate system, and

wherein the working catheter has a plurality of working catheter reference units for sending signals which are characteristic for the position of the working catheter, and wherein the working catheter reference units are asymmetrically arranged on the single lead of the working catheter so that an orientation of the working catheter can be detected in the co-ordinate system of the reference catheter, and

the reference catheter has a plurality of reference catheter reference units for receiving the signals sent by the working catheter reference units; and

a control unit for calculating the position and an intracorporal orientation of the working catheter on the basis of signals received from the reference catheter reference units."

It is respectfully submitted that Willis et al. (USPN 6,490,474), hereinafter Willis, does not teach or suggest the claimed invention. In particular, Willis does teach or suggest the asymmetrical arrangement of the reference units on the working catheter. Apparently, the Examiner is relying on Fig. 11 and Fig. 12 of Willis with respect to an asymmetrical arrangement of reference units. However, with respect to Fig. 11 and Fig. 12, it is noted that the reference units 34a and 34b, respectively, are arranged symmetrically. Also, reference numeral 38 refers to some electrophysiology electrodes for pacing and/or mapping,. The electrodes 38 obviously

are ring electrodes, not reference units. The tip electrode 36 is an ablation electrode, not a reference unit. Only transducers 34a or 34b serve as reference units in the sense claimed in the present invention, and reference units 34a and 34b are arranged symmetrically, not asymmetrically as in the claimed invention. Also, the working catheter, according to the drawings of the present application, is a single lead catheter. No basket catheter, as depicted in Fig. 13 of Willis, is described in the present application. This shows that the reference units of the present invention are arranged asymmetrically on one lead.

Therefore, in view of at least the foregoing, it is respectfully submitted that independent claims 1, 52, 56, and 58-60 are neither anticipated nor rendered obvious, and it is respectfully submitted that independent claims 1, 52, 56, and 58-60 now define allowable subject matter. Also, since the other pending claims depend either directly or indirectly from one of the pending independent claims, it is respectfully submitted that these dependent claims define allowable subject matter as well. Applicants respectfully request that the rejection of the claims under 35 U.S.C. 102(e) be removed.

Section 103 rejections

In the current Office action, claims 11, 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willis in view of Vesely et al. (USPN 6,246,898) or Ferre et al. (USPN 6,175,756).

Applicants respectfully traverse the foregoing rejection in view of the above pending claims and for reasons set forth hereafter.

As described previously, Willis does not teach or suggest the invention of independent claim 1, and it was submitted that claim 1 defines allowable subject matter. Therefore, radiating and/or receiving electromagnetic radiation and/or ultrasonic waves in combination with claim 1 does not teach or suggest the invention of claims 11, 48 and 49 which are dependent, either directly or indirectly, on claim 1. Since claims 11, 48 and 49 are dependent, either directly or indirectly, from claim 1, it is respectfully submitted that claims 11, 48 and 49 define allowable subject matter as well. Applicants respectfully request that the rejection of claims 11, 48 and 49 under 35 U.S.C. 103(a) be removed.

In the current Office action, claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willis in view of Lundquist et al.

Applicants respectfully traverse the foregoing rejection in view of the above pending claims and for reasons set forth hereafter.

As described previously, Willis does not teach or suggest the invention of independent claim 1, and it was submitted that claim 1 defines allowable subject matter. Therefore, control members and signal lines in combination with claim 1 does not teach or suggest the invention of claims 20 and 21 which are dependent, either directly or indirectly, on claim 1. Since claims 20 and 21 are dependent, either directly or indirectly, from claim 1, it is respectfully submitted that claims 20 and 21 define allowable subject matter as well. Applicants respectfully request that the rejection of claims 20 and 21 under 35 U.S.C. 103(a) be removed.

Accordingly, the applicant respectfully requests reconsideration of the rejections based on the arguments made above. After such reconsideration, it is urged that allowance of all pending claims will be in order.

Respectfully submitted,

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